



# Transformative Rural Land Use Planning: A Panacea for Managing Land Use Conflict in Rural Areas of North Eastern Nigeria

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**Abstract:** This paper examines conflicts related to Land Use and land Use Planning in rural areas in North Eastern Nigeria with the aim of finding a resolution to end the crisis. Data was collected on land uses that have potential for conflicts, causes of land use conflicts, impacts of the conflicts and roles of LUP in resolving land use conflicts. Zabarmari settlement in Jere LGA, Borno State was selected as the study site. Data was collected using questionnaires distributed to 127 respondents from four (4) clusters of land use types. In each cluster, 20% sample was selected at random. The results revealed that rain-fed farmland is the major land use type generating conflict, the major causes of the conflicts the climate change, and loss of livelihood is the major impact and; LUP plays the role of reconciling the conflicting factions. The implication of the result is that rural areas in North Eastern Nigeria face a land use crisis between pastoralists and crop farmers. These crises are characterized by violence and unimaginable loss of life and property. Therefore, to improve the situation, transformative land use planning involving adequate technology, inclusiveness, transformed conflict resolution modalities and a sustainable management plan is required to forestall the crisis.

**Keyword:** Transformative, Land Use, Planning, Conflict.

## Introduction

Land Use Planning (LUP) is an iterative process, based entirely on dialogue amongst all stakeholders aiming at negotiation and taking decisions for a sustainable form of land use in rural areas as well as initiating and monitoring implementations of the decisions taken. LUP provides the prerequisites for achieving a sustainable form of land use which is acceptable as far as social and environmental concerns and desires of the rural societies are recognized while making sound economic progress (Stephen, 2004).

Wherever people use land and its resources, land use is being planned, consciously or not. Land use does not consider production only but guarantees utilization of land recreation, road buildings, and waste disposals and secures restricted areas such as buffer zones, areas for regenerating surface water, etc. LUP is not only practiced when the government intervene, LUP happens in every society (Elizabeth 2019).

According to Andre, (2014), traditional land use planning is a practice where the traditional institutions or the informal community leadership, not only the governments dictate the use of land without any framework or guide irrespective of whether the use is for

private or public. In the context of traditional rural land use, land in its entire ramification is owned by a specific community. This is the origin of land use conflicts.

Land users often compete for land resource; therefore, conflict can arise and jeopardize the success of land use planning. Competing interest on use of land resources leads to social conflicts. In many instances, the interest of farmers and herders are at a cross road and in others, it impedes on the interest of large companies and the governments. Also, public interest such as the protection of land resources is given too little attention in favor of short-term interest of individuals in making a profit.

Furthermore, Shuo, (2020) opined that, state authorities and; in some cases, development partners intervene in LUP with the aim of overcoming these problems. Such instances of intervention occur according to instruction from the authority, mostly within a clearly defined framework restricted to a specific planning level and plan content. As a result, only partial solutions are achieved. However, if different planning tasks (land use planning, natural resource planning, regional planning) and planning levels (local, state and national) are integrated into an overall planning system, it is more likely that the sustainability of agreements reached within a restricted framework (for example village LUP) can be guaranteed.

Therefore, this research seeks to create the prerequisite required to achieve a type of LUP which is sustainable socially and environmentally compatible, politically desirable and economically sound. It sets into motion social process of decision making and consensus building concerning the use and protection of private, communal or public areas.

It's also within the ambit of this research to evolve and ensure that natural basis of living is sustained and existing environmental damage are minimized; and damaging developments are avoided by supporting and developing suitable approach in finding the specific knowledge required. This requirement can be achieved by recommending approach involving the entire communities into the process and evolve more accurate technology to guide the process of attaining a peaceful co-existence among the land users.

### **Statement of Problems**

In all states of North-Eastern Nigeria, LUP is applied as an approach without properly linking it to other regional planning dimensions. Thus, LUP is understood as regional or national strategic planning only, or it is restricted to the state level. Local agreements on land use do not receive the necessary backing from the high-level authorities and, when interest comes into play it affects the society as a whole (e.g., large area of land for ranching/grazing). The communities are not taken into account during decision making. Another problem is the weak coordination of the concerned organs with the responsibility of LUP at different levels and sectors. In this respect overlapping competencies and power motivated interest play an important role in jeopardizing LUP. Therefore, the aim of this research is to examine how LUP would function in conflict resolution mechanism by involving the stakeholders through public participation and making it a sustainable tool for managing land use conflict in Rural Areas in Borno State. This research has the following objectives

- To identify the land uses that have potentials for conflicts in the area
- To examine the causes of land use conflicts in the study areas
- To determine the impacts of the conflicts on the socioeconomic development
- To identify the roles of LUP in resolving land use conflicts

### **Concept Clarification**

Land use Planning as a Field of study on one hand attempts to identify and clarify the fundamental concepts concerning land use and reveal certain important dimensions that are not obvious to common knowledge (Alexandros, 2018). To understand the concept of LUP, there is the need to provide the planning theory and its meaning as a bases. It is important to point out the necessity for a specific land-use theory and give a framework of its practice. It is not only this framework that influences planning, but also the larger physical, economic, social, institutional, and natural environment, which constitutes its context. Furthermore, Shuo, (2020) postulated that the role of analytical land-use theory is to offer clear concepts, not only necessary for the analytical part of planning, but also inescapable as background for axiological reasoning. However, neither the theory nor the practice can produce plans. There may be the condition sine qua non as vehicles of the planning operation.

Land use conflicts, on the other hand reveal the contemporary evolution of rural areas. They illustrate the rising popularity of the countryside among the urbanized population, which might be in conflict with the traditional ideas of rural land uses and livelihood (UNEP, 2015). Public decision makers often have difficulties recognizing the diversity of societal demands of rural and peri-urban areas and; the rural populace also have difficulties vocalizing their preference (Eduardo, 2022). The gap is the citizen and community participation that has seen neglect over years. Ideally, participatory LUP approach, a top notched rural planning strategy together with conflict analysis presents the formal planning instrument for conflict resolution. The growing concern about the environment, the issue of sustainable development, rural-urban migration and people's living environment has recently led to the renewed interest in LUP as a tool for resolving land use conflicts. Land users have become much more aware that land is limited resource, and this has led to competition among the sectors and segment of the society. To tackle the conflict and to develop a measure for resilient land use, it is necessary to know about the conflicting issues and adopt the right plan for them.

### **Methodology**

Zabarmari village with the population of 105,345 was selected for the study. It is located on Lat. 11. 11315, Long. 13, 21247 in Jerel LGA, 15 km away from Maiduguri. Zabarmari has history of conflict over the use of land resource. Data was obtained through administering questionnaires to people that were involved in land use conflict. The research ensured that all the samples are residents, an adult and owner of a land use. Subjects were identified by the community leaders, and they voluntarily accepted to offer the information. The subject registered themselves into groups according to the land use with potential of conflict as thus, Rain Fed Farming 157, Orchard/Gardening 148, Animal Rearing 135, and Water Resource Users 205. The classification of the land use liable for conflict was agreed with the stakeholders during the advocacy visits. These groups form the cluster, making the research a probability type, in each cluster, sample of 20% was selected randomly. Thus, 31, 30, 27 and 41 samples respectively represent each cluster. Total sample of 129 respondents were given questionnaires to answer. However, on returning the filled questionnaires, two of them were missing, one from animal rearing returned unfilled questionnaire and another from Rain Fed Farming did not return the questionnaire, making the valid returned questionnaires to 127. The data obtained from the survey was analyzed and presented in simple frequency analysis table.

## Analysis

### Land Uses with Potentials of Conflict

Land use types in rural areas are primary in nature. They are basic, unlike the urban areas which is largely concerned with secondary or non-basic activities. The rural land use is concerned with primary production which uses land as the basic factor. In urban areas the major land use types are industrial, commercial, institutional, recreational and some complex residential areas, while in the rural areas land that are categorized into farmland, grazing land, agro processing sites and watershed land. Since this research is concerned with the land use conflict in rural areas, the respondents were asked to categorize the land in their areas that have potentials for conflicts. Table 1 below showed the response as thus: -

**Table 1: Distribution of Respondents According to Land Use Types**

S/No	Types of Land Use	Frequency	Percentage
1	Rain Fed Farm Land	83	65
2	Orchard/Garden	22	17
3	Grazing Land	10	8
4	Water Bodies	12	9
<b>Total</b>		<b>127</b>	<b>100</b>

Source: Field Survey, 2023

The distribution of respondents according to type of land use with potentials for conflicts showed that Rain Fed Farmlands is the major land use type that is liable for land use conflict in the area. The results revealed that 65% of the respondents are of the opinion that Rain Fed Farmland is the major land use type generating conflict in the area, while only 17% believed that Orchard/Garden is responsible for the conflict. These perceptions may not be untrue because conflicts mostly arise from the delayed harvesting of farmland, where normally the herders graze their livestock. These conflicts are the most complex of all because farmlands provide a dual function of farming and grazing in most communities, unlike gardens and orchard that are fenced for one function

### Causes of Land Use Conflicts in Rural Areas

Causes of land use conflicts varies from one region to another depending on the types of land use activities predominant in the area. However, there are some peculiarities to all rural areas in Nigeria. In recent researches, there are indications that the majority of the conflicts were caused by lack of awareness on the impacts of climate change. This research was able to identify other local causes and these parameters was measured alongside with the common believes that climate change account for sole causes of land use conflict. The responds were distributed in table 2 below as thus: -

**Table 2: Distribution of Respondents according to Causes of Land Use Conflicts**

S/No	Types of Land Use	Frequency	Percentage
1	Climate Change	58	46
2	Encroachment	23	18
3	Expansion of Boundaries	20	16
4	Undefined Land Ownership	26	20
<b>Total</b>		<b>127</b>	<b>100</b>

Source: Field Survey, 2023

The distribution of respondents according to causes of land use conflicts shown on table 2 above indicated that the main cause of Land use conflicts is the climate change (46%)

as claimed by other recent researches and undefined land ownership which also accounted for 26%. Other salient factors such as change in period of harvesting, traditional mobility of nomads, increasing population and demand for food and shelter constitutes the major causes of land use conflicts in the framework of this research. The implication here is that there is no sufficient preparation to adjustment to climate change

### **Impacts of Land Use Conflicts**

The impacts of land use conflict cannot be quantified but attempt in recent research has proven that in many areas where conflicts occurred, peaceful and mutual co-existence of the people and their means of livelihood were badly impaired. Where conflicts have escalated, main fabrics of the society such as structure of the society is diluted and common rule of laws are hardly adhered to by the people hitherto a failed society. The escalations had set into motion forceful migration and its attendant impacts on food and shelter. Table 3 below shows the distribution of the respondents according to impacts of land use conflicts on the socioeconomic development in the area.

**Table 3: Impacts of Conflicts on Socio-economic Development**

S/No	Types of Land Use	Frequency	Percentage
1	Loss of Livelihood	48	38
2	Destruction of Lives and Property	31	24
3	Disharmony Among Populace	26	20
4	Reduction in Food Production	22	17
<b>Total</b>		<b>127</b>	<b>100</b>

Source: Field Survey, 2023

The distributions of respondents on table 3 above, indicated that 38% of the respondents are of the opinion that the major impact of land use conflict in the area is loss of livelihood, and 24% believed that destruction of lives and property is the main impact. Furthermore, 20% and 17% believed that disharmony amongst the people and reduction in food production respectfully accounts for the major impacts. The implication is the high poverty prevalence amongst the rural dwellers

### **Roles of LUP in Resolving Land Use Conflicts**

Land use planning provides the bedrock for peaceful existence of rural societies. Without providing adequate LUP, land use practice especially in rural areas cannot be guaranteed. LUP entails arranging parcels of land into proper locations to attain highest and best use. It recognizes the state law and the types of ownership in a broad specter of culture and norms. Table 4 below shows the distribution of respondents according to their perceptions of how LUP had functioned in resolving land use conflicts in the area

**Table 4: Distribution of Respondents on Roles of LUP in Resolving Land Use Conflicts**

S/No	Roles of LUP in Conflict Resolutions	Frequency	Percentage
1	Enacting/Enforcing Land Laws	15	12
2	Boundary Demarcation	11	9
3	Reconciliation of Conflicts	61	48
4	Advocacy for Community Participation	40	31
<b>Total</b>		<b>127</b>	<b>100</b>

Source: Field Survey, 2023

Table 4 above indicated that 48% Of the respondents are of the opinion that LUP played the roles of reconciling the conflicting factions over the use of land in the area, while 31% responded to advocacy for community participation on the decisions taken on land



matters. Enacting/enforcing existing laws and boundary demarcations which are the central roles of LUP were sideline with marginal responses of 12% and 9% respectively. The above indications implied that the planning agency are not doing enough to curtail the growing problems associated with land use

### **Summary of Findings**

- The results revealed that rain fed farmland is the major land use type generating conflict in the area (65%). Conflicts occurs due to delayed harvesting where animal also graze
- The research indicated that the major causes of Land use conflicts is the climate change (46%). The implication is that there is insufficient adjustment to climate change
- This research indicated that loss of livelihood (38%) is the major impact of land use conflict which induces poverty amongst the rural dwellers
- The results indicated that LUP played the roles of reconciling the conflicting factions (48%). The agencies that are not doing enough to forestall the conflicts

### **Discussions**

The sub-Sahara region is facing the precarious trend of inter and intra communal land use conflicts occasioned by acute shortage of seasonal rainfall and increasing population. In Nigeria, the situation has forcefully divorced land use for pastoral farming (rearing of animal) from the land use for crop farming (both irrigation and rain fed farming). These separations are characterized by violence and unimaginable loss of life and property (Nathaniel, 2017). Therefore, formidable task to establish a contemporary and technology-oriented land related conflicts resolution mechanism, distinct from the traditional piecemeal approach to LUP must be initiated. Over time, the traditional method of land use controls was found to be weak and inconsistent with the current and fast changing resource management dynamics that are saturated with conflicts (Habibulla, *etal.* 2017). As social transformation occurs over time and space, the social and economic functions of livestock farming have also changed. Livestock husbandry has been an important industry in a number of continents and regions. According to UNEP (2015), Livestock farming is crucial for the livelihoods of around one billion poor people in the world, many of whom inhabit remote and undeveloped areas and procure sustainable livelihoods mainly by livestock farming. By all accounts, livestock production has made a prominent contribution to improving remote livelihoods and alleviating poverty for pastoralists, especially those living in the arid and semi-arid regions. Findings from recent research by Eduardo, *etal.* (2022) has indicated that livestock are impacted by climate change and altered rainfall, increased temperatures, frequent drought and bush encroachment. Severe conditions like sand storms and drought causing low forage yield, thermal stress, and loss of biodiversity; had triggered competition for diminished grassland resources which led to many devastating conflicts among different communities. According to Nathaniel, (2017) the impacts of climate change on livestock are also well described in terms of expansion, as well as low production outputs. In Nigeria the conflict between herders and farmers has posed severe security challenges and has claimed far more lives than Boko Haram insurgency. The conflicts have threatened the country's security, undermines the national stability and unity, killed and displaced many people. As the farmer/herder relationships are conflicting, they are simultaneously complimentary in diverse array, therefore, it is important to establish efforts on an upward path by fostering

the symbiotic relationship, which is necessary for national growth and sound agricultural development in Nigeria. To address the conflicts of land use it is necessary to employ adequate technology and induce the culture of inclusiveness amongst the community members, transform the conflict resolution modalities and prepare sustainable management plan to address the perennial monster bedeviling the region. So, what are conditions required to achieve these advantages? According to Stephen, (2004) LUP approach represents an opportunity as well as management challenge. The region has a vast underutilize resource while playing parasite on other regions. Therefore, it is critical to understand how to better the land use management through public participation and inclusiveness as well as applying the appropriate technology to curb the menace associated with lack of it.

### **Conclusion and Summary**

To justify the application of land-use planning for policy support, planners and policy makers must trust the theoretical foundation behind all land use modeling. Otherwise, there will be no future for land-use scenarios. The polarization of ideals and preference along the rural-urban interface, impacts land use planning and management as well as the social, environmental and economic outputs. In response, authorities need to be proactive in collecting information from residents and stakeholders regarding their preference and conflict perception. Stakeholders involved in land use decisions are an important source of information that can be used to explore these conflicts. The intrinsic characteristic of land use conflicts includes complex natural systems and process within large time frame and high degree of uncertainty. Decisions taken at sub national levels and national levels are influenced by broader societal trends and super regional forces. Land-use modeling and spatial scenarios have gained increased attention as a means to meet the challenge of reducing uncertainty in the decision-making. Several organizations have developed software for land-use modeling. Many of the recent modeling efforts incorporate Cellular Automata (CA) to accomplish spatially explicit land-use change. The transformative land use planning mechanism should embrace Participatory Action Research (PAR) which is considered as a subset of action research. PAR is a “systematic collection and analysis of data for the purpose of taking action, making change and generating practical knowledge.

### **Recommendations**

- There is a need to create a general framework for the classification of rural land use that has multiple usufruct rights. This classification will play the role of dousing conflicts of land use that have more than one use, for example farmland and grazing land
- All stakeholders in land use planning should see each other as a partner of development. The general public and the responsible government agencies should form a synergy in forestalling the conflict that arises from neglecting a component part of the land use system
- Government at all levels should evolve modalities of harmonizing and domesticating the national laws and key in the local and traditional land use into an operational framework that will guide the use of land
- Adequate information and sufficient awareness should be created at the grassroots level to forestall the occurrence of conflicts and tranquilize the communities for peaceful co-existence

- In the case of the existing conflicts, more current and technology-oriented land demarcation systems should be used to synthesize and identify ownership and boundaries of land
- Records of occupancies and periods of tenure should be created to avoid conflicts arising from poor records keeping common to most agencies responsible for land administration

## References

- Alexandro, P. L. (2018). Clarified Theoretical and Applied Land Use Planning Concepts, [urbanscience.com](http://urbanscience.com)
- Andre, T. Romain, M. Orestes, K. (2014). Identifying and Measuring Land Use and Proximity Conflicts: Methods and Identification. SpringerPlus
- Dale, A. B., Chandrasekhar, E. (2000). Concept of Urban Land Conflict, [environmentalpeacebuilding.com](http://environmentalpeacebuilding.com)
- Eduardo, G. *etal.* (2022). Future Land Use Cover Change and Participatory Planning: Mapping and Forecasting Land Use. ScienceDirect
- Enermark, F. (1999). Urban Survey, [urbanscience.com](http://urbanscience.com)
- Elizabeth, D. (2017). Transportation, Land Use and Environmental Planning, Elsevier
- Habibulla, M. *etal.* (2017). Land Use Conflicts in Developing Countries: Proximate Driving Forces and Preventive Measures. JSTOR.com
- Joblonski, D.F. (2004). Conflict Resolution through Dialog in Sub Urban Settlement, [urbanscience.com](http://urbanscience.com)
- Nathaniel, O. A. (2017). Land Use Conflict between Farmers and Herders in Parts of Kano, Yobe, and Borno States of Nigeria: Nomads View Points. *Ghana Journal Online* vol. 9 No 1. AJOL (African Journal Online)
- Richard, F. (2018). The New Urban Crisis, [urbanscience.com](http://urbanscience.com)
- Shuo Y. Shubin, D. Chenxi. L. (2020). Land Use Conflict Identification in Urban Fringe Areas Using Theory of Functional Space Partition. Taylor and Francis Online
- Stephen, G. James, C.S. John, C.B. (2004). Land Use Problem, Consequences and Solutions. DOI 10. 4324/9780203799833. Researchgate
- UNEP, (2015). Livelihood Development Critical to Post-Conflict Peace Building and Economic Recovery, [environmentalpeacebuilding.com](http://environmentalpeacebuilding.com)